

IN THE CLAIMS:

1-21. canceled

22. (previously presented) A polarized light beam splitter assembly comprising:

a polarized light beam splitter prism including:

a first internal surface; and

a second internal surface;

a wire grid polarizer including:

a first surface secured to the prism first surface;

a second surface raised from and parallel to the polarizer first surface, with a perimeter region and a central region;

an adhesive formed between the polarizer second surface perimeter region and the prism second surface;

an air gap cavity between the prism second surface and the polarizer second surface central region, surrounded by the adhesive; and

a wire grid attached to the polarizer second surface central region, with a height extending into the air gap cavity.

23. (previously presented) The assembly of claim 22 wherein the air gap cavity has an area defined by the polarizer second surface perimeter region and a height defined by the maximum thickness of the adhesive.

24. (previously presented) The assembly of claim 23 wherein the adhesive has a uniform maximum thickness defined between the polarizer second surface and the prism second surface; and

wherein the polarizer wire grid height is less than the adhesive maximum thickness.

25. (previously presented) The assembly of claim 24 wherein the air gap cavity has a volume defined by the product of the maximum adhesive thickness and the air gap cavity area.

26. (previously presented) The assembly of claim 25 further comprising:
spacers having a uniform size embedded in the adhesive; and
wherein the adhesive maximum thickness is defined by the spacer size.

27. (previously presented) The assembly of claim 26 wherein the spacers have a spherical shape with a diameter; and
wherein the adhesive maximum thickness is equal the spacer diameter.

28. (previously presented) The assembly of claim 26 wherein the adhesive maximum thickness is in the range of 1 and 30 microns.

29. (previously presented) The assembly of claim 26 wherein the spacers are formed on the polarizer second surface.

30. (previously presented) The assembly of claim 22 wherein the prism is a glass cube split into interfacing first and a second

sections, wherein the prism first surface is formed on the prism first section interface and the prism second surface is formed on the prism second section interface.

31. (previously presented) The assembly of claim 30 wherein the cube defines an elongated axis and wherein the prism first and second surfaces have an angle, defined with respect to the elongated axis, in the range between 1 and 89 degrees.

32. (previously presented) The assembly of claim 22 further comprising:
a light source positioned to emit light;
a reflection device; and
wherein the polarizer second surface accepts light from the light source and redirects the light toward the reflection device.

33. (previously presented) The assembly of claim 32 wherein the reflection device is device chosen from the group including a liquid crystal display panel, a mirror, and a quarter wave plate.

34. (currently amended) A polarized light beam splitter assembly, the assembly comprising:
a prism having a source axis oriented to accept light in a first polarization and an emission axis to supply light in a second polarization;
a polarizer embedded in the prism, including a glass substrate with parallel first and second surfaces, and a wire grid formed overlying the glass substrate first surface; and

an air gap cavity interposed between the glass substrate first surface and the prism, surrounded by an adhesive.

35. (currently amended) The assembly of claim 34 wherein the prism has a first interior surface and a second interior surface; wherein the glass substrate first surface has a perimeter; ~~[[and]] the assembly further comprising:~~

~~[[an]] wherein the adhesive has having~~ a uniform maximum thickness interposed between the glass substrate first surface perimeter and the prism first interior surface; and

wherein the air gap cavity is formed by prism first interior surface, the glass substrate first surface, and the adhesive.

36. (previously presented) The assembly of claim 35 further comprising:
uniformly sized spacers embedded in the adhesive.

37. (previously presented) The assembly of claim 35 wherein the wire grid has a height; and
wherein the adhesive maximum thickness is greater than the wire grid height.

38. (previously presented) The assembly of claim 35 wherein the adhesive maximum thickness is in the range of 1 and 30 microns.

39. (previously presented) The assembly of claim 34 further comprising:
a light source to supply the light;
a reflection device; and
wherein the wire grid accepts light from the light source and redirects the light toward the reflection device.

40. (previously presented) The assembly of claim 39 wherein the reflection device is device chosen from the group including a liquid crystal display panel, a mirror, and a quarter wave plate.